

We claim:

1. A process for depleting monovalent cations from water comprising  
subjecting said water to reverse osmosis wherein retentate from  
5 said reverse osmosis has a higher ionic concentration than said water,  
subjecting said retentate to electrodialysis, and  
and recovering water depleted in monovalent cations.
2. The process according to claim 1, wherein the permeate from the  
10 reverse osmosis is added to said water depleted in monovalent cations.
3. The process according to claim 1, wherein the yield of said water  
depleted in monovalent cations is about 100% and the yield of divalent  
15 cations is at least about 65%.
4. The process according to claim 1, wherein the water comprises about  
3 g/l of total ions or less.
5. The process according claim 1, wherein the sodium content of said  
20 water ranges from about 20 mg/l to about 150 mg/l.
6. The process according to claim 1, wherein said water depleted in  
monovalent cations comprises less than about 20 mg/l of sodium.
- 25 7. The process according to claim 1, wherein the pressure of the reverse  
osmosis is less than about 10 MPa.
8. The process according to claim 7, wherein the pressure of the reverse  
30 osmosis ranges from about 0.2 MPa to about 5 MPa.